

## General

### Title

Prevention of surgical wound infections: percentage of errors (quality defects) in antibiotic prophylaxis for surgical procedures.

### Source(s)

Ministry of Health. Safe practices indicators project: background, summary of methods and measurement strategies. Madrid: Ministry of Health; 2009 Feb 20. 97 p.

## Measure Domain

### Primary Measure Domain

#### Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

### Secondary Measure Domain

Does not apply to this measure

## Brief Abstract

### Description

This measure is used to determine the percentage of errors connected with recommendations on antibiotic prophylaxis in surgical procedures. The following items are considered errors:

- Lack of use of antibiotic in surgery in which prophylaxis is indicated
- Incorrect antibiotic
- Incorrect dose
- Untimely administration
- Incorrect duration of prophylaxis

### Rationale

Many surgical procedures have shown a reduction in surgical site infections through the use of prophylactic antibiotics that are given prior to surgery in order to establish tissue levels at the time of incision and that are maintained throughout the operation. The medical literature regularly publishes recommendations and updates for prophylactic antibiotics for various surgical procedures.

Main aim of indicator: to reduce the number of errors connected with recommendations on antibiotic prophylaxis in surgical procedures.

## Primary Clinical Component

Surgical procedures; antibiotic prophylaxis; errors

## Denominator Description

Number of surgical procedures reviewed x possible errors assessed

## Numerator Description

Errors in compliance with protocol for antibiotic prophylaxis (see the related "Numerator Inclusions/Exclusions" field)

## Evidence Supporting the Measure

### Evidence Supporting the Criterion of Quality

A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence

A formal consensus procedure involving experts in relevant clinical, methodological, and organizational sciences

A systematic review of the clinical literature

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

## Evidence Supporting Need for the Measure

### Need for the Measure

Overall poor quality for the performance measured

Variation in quality for the performance measured

### Evidence Supporting Need for the Measure

Ministerio de Sanidad y Consumo. Indicadores de buenas practicas sobre seguridad del paciente. Resultados de su medicion en una muestra de hospitales del sistema nacional de salud España. Madrid: Ministerio de Sanidad y Consumo; 2008. 95 p.

# State of Use of the Measure

## State of Use

Current routine use

## Current Use

Internal quality improvement

# Application of Measure in its Current Use

## Care Setting

Hospitals

## Professionals Responsible for Health Care

Advanced Practice Nurses

Nurses

Physicians

## Lowest Level of Health Care Delivery Addressed

Single Health Care Delivery Organizations

## Target Population Age

Unspecified

## Target Population Gender

Either male or female

## Stratification by Vulnerable Populations

Unspecified

# Characteristics of the Primary Clinical Component

## Incidence/Prevalence

50.2%  $\pm$  0.4 of patients undergoing surgery in which prophylaxis is indicated do not meet all the recommendations on antibiotic prophylaxis.

## Evidence for Incidence/Prevalence

Ministerio de Sanidad y Consumo. Indicadores de buenas practicas sobre seguridad del paciente. Resultados de su medicion en una muestra de hospitales del sistema nacional de salud EspaÃ±ol. Madrid: Ministerio de Sanidad y Consumo; 2008. 95 p.

## Association with Vulnerable Populations

Unspecified

## Burden of Illness

Unspecified

## Utilization

Unspecified

## Costs

Unspecified

## Institute of Medicine (IOM) Healthcare Quality Report Categories

### IOM Care Need

Getting Better

Staying Healthy

### IOM Domain

Effectiveness

Safety

## Data Collection for the Measure

### Case Finding

Users of care only

### Description of Case Finding

Surgical procedures

## Denominator Sampling Frame

Patients associated with provider

## Denominator Inclusions/Exclusions

Inclusions

Number of surgical procedures reviewed x possible errors assessed

Exclusions

None

## Relationship of Denominator to Numerator

All cases in the denominator are equally eligible to appear in the numerator

## Denominator (Index) Event

Therapeutic Intervention

## Denominator Time Window

Time window brackets index event

## Numerator Inclusions/Exclusions

Inclusions

Errors\* in compliance with protocol for antibiotic prophylaxis

\*The following items are considered errors:

- Lack of use of antibiotic in surgery in which prophylaxis is indicated
- Incorrect antibiotic
- Incorrect dose
- Untimely administration
- Incorrect duration of prophylaxis

Exclusions

None

## Measure Results Under Control of Health Care Professionals, Organizations and/or Policymakers

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

## Numerator Time Window

Institutionalization

## Data Source

Administrative data

Medical record

## Level of Determination of Quality

Not Individual Case

## Pre-existing Instrument Used

None

## Computation of the Measure

### Scoring

Rate

### Interpretation of Score

Better quality is associated with a lower score

### Allowance for Patient Factors

Unspecified

### Standard of Comparison

Internal time comparison

## Evaluation of Measure Properties

### Extent of Measure Testing

After pilot testing, the set of indicators has been measured in a random sample of 25 Spanish hospitals, stratified by hospital size. The main objective has been to field test the feasibility of measurement in the various settings representing real life situations in the context of the Spanish Health Care System.

Both the whole indicators validation report and the results of the baseline measurement in a sample of the Spanish National Health Service (NHS) hospitals may be accessed and downloaded from the Spanish Ministry of Health web page (in Spanish):

[Validation report](#)

[Results of baseline measurement in Spanish NHS hospitals](#)

### Evidence for Reliability/Validity Testing

Ministerio de Sanidad y Consumo. Construcción y validación de indicadores de buenas prácticas sobre seguridad del paciente. Madrid: Ministerio de Sanidad y Consumo; 2008. 178 p.

Ministerio de Sanidad y Consumo. Indicadores de buenas practicas sobre seguridad del paciente. Resultados de su medicion en una muestra de hospitales del sistema nacional de salud Español. Madrid: Ministerio de Sanidad y Consumo; 2008. 95 p.

Ministry of Health. Safe practices indicators project: background, summary of methods and measurement strategies. Madrid: Ministry of Health; 2009 Feb 20. 97 p.

## Identifying Information

### Original Title

Percentage of errors (quality defects) in antibiotic prophylaxis for surgical procedures.

### Measure Collection Name

Safe Practices Indicators Project

### Measure Set Name

Adopting Safe Practices in Specific Clinical Care Settings or for Specific Processes of Care

### Measure Subset Name

Prevention of Surgical Site Infection

### Submitter

Spanish Agency for Healthcare Quality of the Spanish Ministry of Health - National Government Agency [Non-U.S.]

### Developer

Grupo de Investigaci3n sobre Gesti3n de la Calidad en Servicios de Salud, University of Murcia, under contract to the Spanish Ministry of Health - National Government Agency [Non-U.S.]

### Funding Source(s)

Agency for Quality, Spanish Ministry of Health

### Composition of the Group that Developed the Measure

Saturno, Pedro J., MD, DrPH; Group Director and Project PI

Castillo, Carmen; L3pez, M. Jos3; Ram3n, Teresa; Nurses

Carrillo, Andr3s, MD; Intensive Care Specialist

Iranzo, M. Dolores; Hospital pharmacist

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## Financial Disclosures/Other Potential Conflicts of Interest

Project entirely financed by the Spanish Ministry of Health.

## Adaptation

Measure was not adapted from another source.

## Release Date

2009 Feb

## Measure Status

This is the current release of the measure.

## Source(s)

Ministry of Health. Safe practices indicators project: background, summary of methods and measurement strategies. Madrid: Ministry of Health; 2009 Feb 20. 97 p.

## Measure Availability

The individual measure, "Percentage of Errors (Quality Defects) in Antibiotic Prophylaxis for Surgical Procedures," is published in "Safe Practices Indicators Project: Background, Summary of Methods and Measurement Strategies."

For more information, contact:

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## Companion Documents

The following are available:

Ministerio de Sanidad y Consumo. Construcc  n y validaci  n de indicadores de buenas pr  cticas sobre seguridad del paciente. Madrid: Ministerio de Sanidad y Consumo; 2008. 178 p. This document is available in Portable Document Format (PDF) from the [Ministry of Health and Social Policy Web site](#)  (in Spanish).

Ministerio de Sanidad y Consumo. Indicadores de buenas pr  cticas sobre seguridad del paciente. Resultados de su medici  n en una muestra de hospitales del sistema nacional de salud Espa   ol.

## NQMC Status

This NQMC summary was completed by ECRI Institute on August 21, 2009. The information was verified by the measure developer on December 16, 2009.

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